

ABSTRACT

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A reliable Medium Access Control layer protocol and method employing centralized management of communication in a Time Division Multiple Access network architecture. The Medium Access Control layer protocol implements Quality of Service guarantees to the layers of the Open Systems Interconnection reference model above the Medium Access Control layer by providing guaranteed bandwidth links within the bandwidth range specified by those layers. The Medium Access Control layer protocol further provides variable data slot requisition, variable data slot allocation, dynamic data slot reallocation, and data slot reallocation. Additionally, the protocol provides a schedule for variable-length data slot transmission in which timestamp counters are used by the master device and slave devices to schedule the transmission and reception of modified data slot parameters.

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